THOMAS HINCKS, F.R.S.

IT is little more than a month since an obituary notice of George James Allman appeared in these pages, and death has now claimed another distinguished worker in the same field. The Rev. Thomas Hincks, who died at Clifton on January 25, was but six years younger than Allman, having been born at Exeter on July 15, 1818. Allman's best-known works are his monographs on Gymnoblastic Hydroids and Fresh-water Polyzoa. Hincks' monographs on the same subjects, "A History of the British Hydroid Zoophytes" (1868) and "A History of the British Marine Polyzoa" (1880) are, by an unusual coincidence, more widely known and appreciated than any of his other works. The former was published while the sheets of the "Gymnoblastic Hydroids" were passing through the press, and Allman's opinion of it, recorded in his preface, may fitly be quoted here:—"Eminently critical, with the descriptions accurate and lucid, and with the figures abundant and expressive, it is the most complete systematic work on the Hydroida hitherto published. The large amount of original observations gives it a special value, and its fulness of description and illustration renders it indispensable to every student of the Hydroida."

The praise bestowed on the "Hydroid Zoophytes" must be accorded in the fullest measure to the "Marine Polyzoa." This work constitutes a new departure, containing as it does an account so accurate and critical of the British Polyzoa as to have influenced all later work on this group of animals, and to have made it the best general monograph on the marine Polyzoa which exists in any language.

Hincks' monographs are the ripe results of independent and accurate observation, ranging over the whole area of the subject treated. He was accustomed to take a broad and comprehensive view of his subject-matter; and the classification of the marine Polyzoa in particular owes not a little to his insight. The selection of characters by which to discriminate genera and families was a subject to which he gave special attention; and he was a successful advocate of the view that the surest test of affinities in the Polyzoa is the character of the individual or zoœcium rather than that of the entire colony. The encrusting Cheilostomes formerly known as *Lepralia*, and the erect bilaminate species formerly referred to the genus *Eschara*, were thus distributed among widely separated genera, whose characters probably rest on a firmer foundation than those recognised by the older naturalists. Questions connected with the natural history of zoophytes always excited Hincks' particular interest; and many curious phenomena shown by the living forms have become familiar as the result of his observations.

Most of Hincks' papers appeared in the *Annals and Magazine of Natural History*, between the years 1851 and 1893. Hydrozoa at first came in for the larger share of his attention, but latterly the Polyzoa claimed almost the whole of it. The series of papers entitled "Contributions towards a General History of the Marine Polyzoa" were republished in a collected form in 1894; and one of Mr. Hincks' last pieces of work was the preparation of an index to this series, containing many important additions, which appeared in 1895. This volume is a most valuable record of systematic work, carried out in an admirable manner. The publication of papers on systematic zoology may be of very doubtful benefit in unskilful hands; but of Mr. Hincks' work it can only be said that he enlightened all that he touched. Difficult questions were treated as by the hand of a master, and his wide knowledge and logical faculty led him to conclusions which in most cases command assent.

Thomas Hincks was the son of the late Rev. William Hincks, formerly professor of natural history at Toronto, grandson of the late Dr. Thomas Dix Hincks, professor of Hebrew at Belfast, and nephew of the late Sir Francis Hincks, a distinguished Canadian statesman, at one time governor of Barbadoes, and of the late Dr. E. Hincks, the well-known Egyptologist. He was educated at Manchester New College, York, taking the degree of B.A. at London in 1840, and became minister of the Mill Hill Chapel at Leeds in 1855, resigning in 1869 in consequence of the failure of his voice. He afterwards lived at Taunton, and subsequently for many years at Clifton, where he died.

Mr. Hincks' name appears in the list of those who attended the seventh meeting of the British Association at Liverpool in 1837. He took an active part, at the earliest stage, in the preparations for the recent meeting of the Association at Bristol; but failing health unfortunately prevented him from taking any share in its proceedings last September. He was of active habits, devoted to open-air labour in his garden until comparatively near the close of his life, and it was probably owing to this that he was able to continue his scientific work until a year or two ago. He was a man of singular refinement and dignity, a correct and convincing speaker, and was distinguished for the zeal with which he threw himself into all charitable and philanthropic work at Leeds, in spite of the heavy and exhausting scientific work which he undertook at a time occupied by absorbing pastoral claims. He was a conspicuous example of the type of naturalist, common in this country, who earn for themselves distinction during the leisure spared from the performance of other duties. He became a Fellow of the Royal Society in 1872, shortly after leaving Leeds. He married in early life Elizabeth, daughter of Mr. John Allen, of Warrington, who, with two daughters, survives her husband.

Mr. Hincks was the friend of Allman, Busk, and Principal Dawson, as well as of Canon Norman, Prof. McIntosh and Prof. F. A. Smitt, of Stockholm, whose important works on the Polyzoa, published in Swedish, he did so much to make known to English naturalists.

The writer of these lines is indebted to Mr. W. A. Shenstone for most of the personal details, but he is able to add his own grateful testimony to the kindness and courtesy shown by Mr. Hincks in his correspondence with those who applied to him for information.

The study of zoophytology is the poorer by the loss of one whose work will endure. S. F. H.

NOTES.

SIR WILLIAM MACCORMAC, President of the Royal College of Surgeons of England, delivered the Hunterian Oration on Tuesday afternoon in the theatre of the college in the presence of the Prince of Wales and a large and distinguished company. He rapidly reviewed the events of Hunter's life, enumerated his chief contributions to biological and surgical science, described his methods in research and in instruction, and paid a warm tribute to the astonishing range of his investigations, the magnitude of his actual achievement, and the far-reaching influence he had exercised on the subsequent development of surgery. In the course of his address, the *Times* reports him to have remarked: "In the first instance Hunter's work was biological, his range including both the animal and vegetable kingdoms, and the mineral kingdom as well, and to illustrate his investigations he became a collector. But he was chiefly and finally a surgeon, and to the development of surgery he brought all the knowledge and all the training which he had acquired in other branches of science. He carries us beyond mere handicraft and detail into the region of general principles and law. The surgery of the Middle Ages was a trade, Ambroise Paré and Jean Louis Petit converted it into an art, John Hunter elevated it to the rank of a science. Hunter's life and work inspired his successors with the spirit of observation, investigation, and experiment. We see this exemplified in his great followers Cline, Abernethy, Astley Cooper, Travers, Green, Brodie, Lawrence, and others since their time. They have been makers of English surgery, and each in turn has done much to raise it to that high standard which it has always maintained."

IT is interesting to learn that "it is not the intention of the Government to move the Geological Museum from Jermyn Street." This is the reply (reported in the *Standard* of February 10) which was given by the Right Hon. A. Akers-Douglas to a question asked in the House of Commons by Sir F. Powell. Those who are accustomed to make practical and scientific use of the Geological Survey and of the Museum in Jermyn Street, will hail this decision with satisfaction.

IN the House of Commons, on Thursday last, Mr. Akers-Douglas announced that it is proposed to commence the new buildings in front of the South Kensington Museum within the next few weeks. He said that all the new buildings on the east side of the Exhibition Road will be devoted to the art collections. The existing science building on the east side of the road will be the only portion which will continue to be used for science purposes. The new science buildings will be erected on the west side of the road.

IN reply to a question referring to the Imperial Institute, asked in the House of Commons on Tuesday, Mr. Chamberlain said: "I believe that a conference of representatives of the Government, the Imperial Institute, and the London University will shortly take place to consider whether a part of the Institute buildings can, with due regard to all existing interests, be made available for the accommodation of the London University, as reconstituted by the Act of last Session. Until the result of the deliberations of the conference is known it would be premature to consider what, if any, further steps should be taken in the matter."

Mr. W. H. PREECE, C.B., F.R.S., having on Wednesday attained his sixty-fifth birthday, retires from the position of Engineer-in-Chief and Electrician to the Post Office, but it is hoped that his services will be retained by the Postmaster-General as consulting engineer.

AT the anniversary meeting of the Royal Astronomical Society on Friday last, Mr. Frank McClean, F.R.S., was awarded the gold medal of the Society for his photographic survey of stars in both hemispheres, and other contributions to the advancement of astronomy.

THE Board of Agriculture have appointed a departmental committee to inquire into and report upon the working of the Diseases of Animals Acts in so far as they relate to glanders, and to consider whether any more effective measures can with advantage be taken to prevent the spread of that disease.

ON Friday last Mr. W. W. Skeat, of Cambridge University, left England upon a scientific expedition to the southern portion of Siam lying immediately to the north of the Protected States of the Malay Peninsula. Mr. Skeat is accompanied by two zoologists—Messrs. Evans and Annandale, of Oxford—and by Mr. Gwynne-Vaughan, formerly of Christ's College, Cambridge, as botanist. Later on several other scientific members are to join the party. The expedition will investigate the fauna and flora of the region mentioned, as well as the ethnology of its inhabitants, and it is expected will last about a year.

DR. D. T. MACDOUGAL, of the Botanical Department of the University of Minnesota, has been elected director of the laboratories of the New York Botanical Gardens, and will begin his duties in that institution upon the completion of the museum and laboratory building in July. The main horticultural houses of the garden, covering nearly three acres, are now in process of construction, and will be ready for use during the current year.

A REPORT from Krasnoyarsk states that the remains of a balloon, and the bodies of three men, have been found between Komo and Pit, in the province of Yeniseisk, by two Tunguses, a tribe inhabiting the Taimur peninsula, in northern Siberia. It is suggested that the dead men are Herr Andrée and his companions, but the information so far received is not sufficient to justify any conclusion being arrived at. The latest news is from Stockholm, and it reports that a telegram has been received there from M. Reuterskiöld, the Swedish Minister in St. Petersburg, in which he states that he has to hand a telegram from the Governor-General of Eastern Siberia confirming the statements of the two Tunguses. The Governor adds that he has despatched a mining inspector to conduct investigations on the spot.

THE Department of Science and Art informs us that a horticultural congress will be held at Ghent in June next.

THE twenty-ninth general meeting of the Institution of Mining Engineers will be held in North Staffordshire on Wednesday, February 22.

THE death is announced of Dr. Dareste de la Chavanne, distinguished by his investigations in animal teratology, and formerly president of the French Society of Anthropology.

WE regret to see the announcement of the death of the Rev. William Colenso, F.R.S., of New Zealand. He was distinguished as a naturalist, and made many valuable investigations of Maori antiquities and myths.

THE *Athenaeum* announces the death of the well-known zoologist and geologist, Dr. Franz Lang, of Soleure, at the age of seventy-eight. He was for many years teacher of natural history at, and rector of, the Kantonal-Schule, and also one of the presidents of the Swiss Naturforschende Gesellschaft.

Mr. A. A. CAMPBELL SWINTON will give a lecture on "Electric Discharges in Vacuo, and the Röntgen Rays," at the Glasgow Philosophical Society, on March 1.

WE learn from the *Lancet* that the Cameron prize of the University of Edinburgh, which is conferred on persons who have made valuable additions to the subject of practical therapeutics, has, on the recommendation of the Faculty of Medicine, been awarded by the Senatus Academicus to Dr. Monckton Copeman, of the Local Government Board, London, in recognition of his researches on the employment of glycerine for destroying pathogenic organisms in vaccine lymph.

THE question of the future water-supply of London, which has agitated the minds of many, was dealt with on February 8, at a meeting of the Sanitary Institute, by Mr. R. E. Middleton. He maintained that our magnificent river (the Thames) can afford a more than sufficient supply of water of the best quality, and at far less expense, than the suggested scheme for procuring a supply from Wales. Sir Douglas Galton, who occupied the chair at this meeting, said it had been abundantly shown that the filtration of water, as practised in London, gave us a most admirable supply at the present time. Major Flower remarked that the Staines Reservoir, now in course of construction, would, when completed, meet all requirements, and obviate the necessity of going to a distant source for the supply of water.

WE learn from the *British Medical Journal* that, on February 2, a new Bacteriological Institute was formally opened in the Univerity of Louvain. The Institute is on a large scale, and the installation and equipment are in accordance with the most advanced ideas. Every facility for research is provided. The stables, kennels, and other quarters for animals are built around a vast garden, and all the arrangements show careful regard for the health and comfort of the animals. A special department in the new Institute will be devoted to the preparation of therapeutic serums of different kinds, tuberculin, &c. At the congress on tuberculosis, held in Paris last summer, Prof. Denys gave an account of a new tuberculin which he had used with considerable success; he proposes to continue his work in this field, and is hopeful of success.

THE consent of the Privy Council has been obtained for the regulations as to the keeping, dispensing, and selling of poisons adopted by the Pharmaceutical Society on January 11. By the adoption of these regulations, it becomes unlawful for any person who is not a pharmaceutical chemist, or a chemist and druggist within the meaning of the Pharmacy Act, to retail, dispense, or compound poisons for the public. Bottles or boxes, or other vessels containing poisons, have all to be labelled, and have some distinctive mark to call attention to the dangerous character of the contents. Also in the keeping of poisons, each poison must be kept on one or other of the following systems, viz.: (*a*) In a bottle or vessel tied over, capped, locked, or otherwise secured in a manner different from that in which bottles or vessels containing ordinary articles are secured in the same warehouse, shop, or dispensary; or (*b*) in a bottle or vessel rendered distinguishable by touch from the bottles or vessels in which ordinary articles are kept in the same warehouse, shop, or dispensary; or (*c*) in a bottle, vessel, box, or package kept in a room or cupboard set apart for dangerous articles. Similar precautions have to be taken as regards the bottles or boxes in which poisons are sold or dispensed.

A CORRESPONDENT has called our attention to a statement which has appeared in various newspapers as to a peculiar characteristic of Mr. Gladstone's eyes. There is no doubt that Mr. Gladstone had striking and powerful eyes, but, according to the statement referred to, he also possessed nictitating membranes, which he occasionally used to paralyse his opponents in argument. We have asked the opinion of a distinguished authority upon the story, and he expresses the conviction that it is "all nonsense." He adds: "The nictitating membrane is not present, either in human eyes or in those of apes, except as a rudimentary crescentic fold at the inner corner, too small to cover the eye; and the muscles which, in birds and some mammalia, cause the membrane to advance, are wholly wanting in men and apes. In birds the whole mechanism is very elaborate: in mammalia it is comparatively simple. If Mr. Gladstone possessed a nictitating membrane, and a power of moving it, he must have thrown back behind the hypothetical "missing link" ancestry of the human race. Moreover, the nictitating membrane, when present, as may be seen in five minutes in any fowl-house, does not cover the eye during waking life, and is not transparent. It is only drawn across the surface momentarily, from time to time, as a means of cleansing it. Mr. Nettleship, who operated on Mr. Gladstone for cataract, would, of course, be able to speak positively as to the suggested malformation."

FROM the beginning of this month the weather over these islands has been of a very abnormal character, the shade temperature culminating in a maximum of about 67° in the neighbourhood of London on the 10th inst.—a reading which was about 5° higher than any shade temperature in February during at least the last sixty years. In connection with this abnormal temperature a series of gales has swept the country from end to end, in such rapid sequence that the seas have been lashed into fury on most of our coasts, and much damage has been caused by floods in various localities. The rainfall has also been very considerable, especially in the northern and western parts of the country.

AT the Royal Geographical Society on Monday, Prof. Norman Collie, F.R.S., gave an account of two journeys taken during 1897 and 1898 through that part of the Canadian Rockies that lies between the Kicking Horse Pass on the south and the source of the Athabasca River on the north. The most interesting problem connected with the first journey which presented itself to Prof. Collie and his party was whether a lofty mountain seen from the slopes of Mount Freshfield, from which it lay distant about thirty miles in a north-westerly direction, might be Mount Brown or Mount Hooker, which were supposed to be 16,000 feet and 15,000 feet high respectively. For nearly seventy years these peaks had been shown in maps as the highest points in the Rocky Mountains, but it appears that they are not so distinguished. The peak climbed by Douglas, and said to be 17,080 feet high, turns out to be more probably the Mount Brown of Prof. Coleman, having a height of 9000 feet. Prof. Collie's journeys lead him to the conclusion that there is only one Athabasca Pass, and on each side of its summit may be found a peak—Mount Brown, 9000 feet high, on the north—the higher of the two—and Mount Hooker on the south. Between them lies a small tarn, 20 feet in diameter—the Committee's Punch-bowl. The peaks to the south, amongst which the party wandered last August, were new, and they probably constituted the highest point of the Canadian Rocky Mountain system.

THE new form of electric lamp, invented by Prof. Walter Nernst, of the University of Göttingen, and briefly described in these columns several weeks ago (p. 132), was exhibited and explained by Mr. James Swinburne at the Society of Arts on Wednesday in last week. The part of the lamp which emits the light consists a of a little rod of highly refractory material, mainly thoria, supported between two platinum electrodes. Such a substance at ordinary temperatures is a non-conductor of electricity, but when heated it becomes an electrolyte, and it is upon this difference that the action of the lamp depends. When the lamp is required for use, it is first gently heated—with the smaller sizes an ordinary match suffices—until it begins to conduct; the current then passes and further heats the rod until it attains a temperature of intense incandescence and gives out a brilliant white light. In some circumstances this method of starting the lamp might not be regarded as a very great inconvenience; in others it certainly would. Prof. Nernst has, therefore, designed an automatic lamp, lighted simply by turning a switch, in which the required heating of the rod is effected by means of a platinum resistance arranged close to it, which is automatically cut out as soon as the rod becomes hot enough to conduct. The life of the rods used, running at an efficiency of $\frac{2}{3}$ of a candle-power per watt, including the resistance, is more than 500 hours in good specimens. The lamp works equally well on alternating and direct currents, and does not need to be enclosed in a vacuum.

WORKMEN who work in compressed air are sometimes the victims of a peculiar malady which has been designated caisson disease or compressed air disease. Dr. Thomas Oliver has made observations of several cases of this kind of illness, and he comes to the conclusion that the symptoms are best explained by the theory that the malady is due to increased solution, by the blood, of the gases met with in the compressed air, and the liberation of these gases during decompression. The increased solution of the gases is, of course, due to the greater pressure upon the person of the caisson worker.

IN one of the last numbers of the U.S. *Monthly Weather Review* (October 1898), Mr. H. Earlscliffe makes a suggestion of the possible utilisation of fog, which should call forth all the inventive genius of America. He states that in California there are vast areas of valuable land where the water supply is insufficient, but which are frequented by heavy fogs from the ocean. These fogs generally occur at night during the dry summer months, when moisture is most needed, and are dissipated early in the morning by the sun. Neither science nor art can at present suggest any feasible method of condensing the moisture, and causing the fog to descend in drops of rain. What is needed is some simple mechanical arrangement by which the fog particles shall be intercepted and forced to drip or glide downward to the ground, or to catch them as the leaves of the trees do. Such devices as the explosion of dynamite are likely to be too expensive in comparison with the return they make.

IN *Ciel et Terre* of the 1st inst. there is an article by M. Lancaster, Director of the Meteorological Division of the Brussels Observatory, entitled "Frost and Anti-cyclones." At a recent meeting of the Royal Meteorological Society, Mr. W. H. Dines read a paper on the winter temperature and height of the barometer in north-west Europe, in which he stated that the winter temperature did not depend upon the height of the barometer, and that it was just as likely to be cold when the barometer is below the average as when it is above the average. M. Lancaster draws attention to his paper in *Ciel et Terre* in 1895, in which he comes to nearly the same conclusion as Mr. Dines; and he states that the tables of monthly mean barometric pressures for Brussels from 1833 to 1898 show that during the seven months of December, which gave the highest mean barometric values, only one, that of 1879, had a temperature below the average. In ten months of January, with exceptionally high barometric pressure, the temperature, however, was below the average; while out of eight months of February, with high pressures, only one (1887) had a temperature below the average. The careful scientific work of both authors is beyond question; it may be mentioned, however, that Mr. Dines' paper met with considerable criticism, and, unless meteorological text-books are to be rewritten, the matter calls for further careful inquiry, with the view of seeing that no fallacy underlies the investigation.

IN the *Revue scientifique* of January 7, we learn that on October 31 a small monument was erected at the small village of Saint-Lothaire in the Jura, to Charles Marc Sauria, the original inventor of matches. The writer of the paper, Dr. Cabanès, tells us that Sauria was born in 1812, and was the son of General Sauria. He always showed a keen interest in scientific inventions of all kinds, and while studying for the medical profession at the college at Dôle, obtained some chemicals from an apothecary, and spent all his spare time in trying to make a match which would light by striking, while his fellow students were enjoying themselves. In the winter of 1830–31 his efforts were crowned with success. Sauria confided his inventions to his professor, M. Nicolet. Sauria gained but little profit from his invention, which he could not afford to patent, and spent the greater part of his days as a simple country doctor. It is interesting to learn that matches were invented independently in 1832 by Frederic Kammerer, an Austrian, who seems to have died in great poverty; and the same discovery is also attributed to the Hungarian Irinyi.

WE have received a reprint of a paper, published by Prof. Edward S. Morse in the November number of *Appleton's Popular Scientific Monthly*, entitled "Was Middle America peopled from Asia?" Prof. Morse answers the question in the negative, reviewing the arguments of the Asiaticists, and supports his conclusions by pointing out the absence of any evidence of interchange of social commodities.

AN important paper on physiographical problems raised by the distribution of temperature and salinity in the waters of the northern Pacific, is contained in *Petermann's Mitteilungen* for January. The discussion is chiefly based on the work of the U.S. s. *Albatross* between 1890 and 1895, and of the Russian vessel *Vitiaz*, under Makarow, in 1887. Considerable light is thrown on the movements of the deeper waters in the Bering and Okhotsk Seas, and in the western and central Pacific generally.

Petermann's Mitteilungen gives an account of the work of the international Glacier Commission appointed by the Geological Congress at Zürich in 1894. The Commission has issued a preliminary discourse by Prof. F. A. Forel, and three annual reports. The result of widest general interest arrived at, so far, is that periodic variations of climate are much more marked in the central regions of continents than on the borders. Coast-lands, and especially those of the Atlantic, are exceptional regions, in which characteristic dry periods are not, in general, recognisable. The advance and retreat of glaciers show corresponding differences.

WE have received the second number of *La Cultura Geografica*, a new illustrated review, published twice a month at Florence. It is to contain short articles on all branches of geography, but special attention will be paid to the geography of Italy, terrestrial physics, anthropogeography, and the history and teaching of geography. Among the subjects treated in the last issue are Danubian Italy, the poles of low temperature, the vertical distribution and grouping of the lakes of the province of Trent, &c.

THE volume of *Proceedings* of the Indiana Academy of Science, recently published, contains the results of a statistical inquiry into the variations of two species of Etheostoma living in lakes in the State. The paper is a contribution from the zoological laboratory of the Indiana University, the director of which, Prof. C. H. Eigenmann, explains that for the purpose of making a detailed comparison between the faunas of two units of environment, a biological station has been established on Turkey Lake, Kosciusko County, Indiana. Five miles from this lake is another lake of different shape and depth—Tippecanoe Lake. The two lakes are on opposite sides of the watershed separating the St. Lawrence from the Mississippi Basin. A physical survey has been made of these lakes, and the physical and biological conditions of the two lakes are being studied as two units of environment within which it is proposed to determine the extent of variation in the non-migratory vertebrates, the kind of variation, whether continuous or discontinuous, the quantitative variation, the direction of variation, and the annual or periodic variation and the effect of selection.

A PAPER by Mr. W. J. Moenkhaus, on the variation of specimens of *Etheostoma caprodes* and *E. nigrum* in two lakes, is one of a series projected to illustrate the points referred to in the foregoing note. The chief results are summarised as follows: (1) In *Etheostoma caprodes* the males are more variable than the females in the ratio of ·507 : ·468. In *Etheostoma nigrum* the females are more variable than the males in the ratio of ·402 : ·454. (2) The specimens of both species in Turkey Lake differ from those in Tippecanoe Lake in every structure examined. (3) The variation in the two species is determinate for the lake—that is, both species are modified in the same way by the same lake with but one exception. (4) This difference is not the result of selective influence, but apparently the direct effect of the environment.

A RECENT number of the *Bulletin de la Société de Géographie* contains a paper by M. Edouard de Sainville on his sojourn on the lower course of the Mackenzie River between 1889 and 1894. A descriptive account of the region and its Indian and Eskimo inhabitants is given in some detail. Amongst other observations of interest, M. de Sainville notes the entire absence of phthisis among the natives, and the occurrence of colds only on contact with civilisation. The experiment was tried of opening a soldered zinc case from Winnipeg in a perfectly healthy camp, and distributing the contents; next day every member developed a violent cold, which was cured by the administration of camphor.

Bulletin No. 162 of the Michigan State Agricultural College Experiment Station is devoted entirely to the subject of forestry, one of very great practical importance to the State.

THE *Bulletin* of the Illinois State Laboratory of Natural History publishes a list, by Mr. Adolph Hempel, of the Protozoa and Rotifera found in the Illinois river and adjacent lakes at Havana, Ill. In the Protozoa are included *Volvox* and other allied forms. We have received also the Biennial Report, by the director of the same State Laboratory.

IN view of the encouragement of new industries in the tropical possessions lately acquired by the United States, the U.S. Department of Agriculture (Division of Botany) has issued, in the form of *Bulletin* No. 21, an account, by Mr. S. J. Galbraith, of the culture of Vanilla, as practised in the Seychelles Islands.

IN an article in the *Journal* of the Royal Horticultural Society for January, on the "Origin of Species-inducing Varieties," the Rev. G. Henslow states his conviction that it is not a rich soil which first induces doubling in plants, but a poor one; but, let the doubling be once thoroughly set up in the plant's constitution, and it then seems that a rich soil will probably enhance it. We have received also, from the Royal Horticultural Society, a very full programme of arrangements for the year 1899.

THE December (1898) issue of *Himmel und Erde* contains an interesting article, by Herr G. A. L. Rumker, on the photography of lightning, which is illustrated by a beautiful reproduction from a photograph of "ribbon" lightning obtained at the Hamburg Observatory. Dr. F. Koerber continues his article on spectrum analysis, treating of the spectra of the planets and their satellites.

THE *Verhandlungen* of the German Zoological Society, containing reports, papers, and other communications presented to the eighth annual meeting held at Heidelberg last June, have been published by Mr. W. Engelmann, under the editorship of Prof. Dr. J. W. Spengel.

MR. J. A. HARVIE-BROWN has sent us a copy of his paper, read at the International Congress of Zoology last August, on "a correct colour code, or sortation code in colours, to serve for mapping the zoo-geographical regions and subregions of the world, and also to be of use as an eye-index for librarians." Accompanying the paper are specimens of colours which it is suggested should be used for book-shelves or bindings to indicate, in accordance with the proposed code, the regions to which the works refer.

PROF. H. OSBORN has just published a useful pamphlet on the "Hessian Fly (*Cecidomyia destructor*, Say) in the United States," forming *Bulletin* No. 16, new series, of the U.S. Department of Agriculture, Division of Entomology. It is accompanied by a map of the distribution of the insect in the States, and several illustrations of its various stages, parasites, &c. Its original habitat is unknown, but it is now found in most countries of Europe, being specially abundant and destructive towards the eastern parts; in the north and west (including England) it is rarely destructive, and appears to have been either overlooked, or to be of recent introduction. In the States, it first attracted attention in Long Island in the year 1778, and was supposed to have been introduced, a year or two before, with fodder or bedding with the Hessian troops, whence its popular name; and this belief Prof. Osborn considers to be not improbably correct. From Long Island the insect extended its ravages in all directions at the rate of about twenty miles per year, and, as shown by the map, it has now invaded the whole of the eastern half of the States, except the south-eastern and the extreme southern States; and has likewise been found in California, about San Francisco. Outside Europe and the States it has been found near Wellington, New Zealand, in 1888, only two years after its presence in England had been verified by entomologists.

THERE are other wheat midgets besides the Hessian Fly, but the characteristic symptom of the attacks of the latter is the breaking down of the stalk, owing to its being weakened by the grub domiciled within. If the stubble, chaff, &c., is burned, or the field deeply ploughed over as early as possible, future injury may be much minimised, if not altogether prevented. The fly chiefly attacks wheat, rye, and barley, but has occasionally been found on grasses. Its abundance, or otherwise, depends much on climatic conditions, and is liable to be reduced by numerous parasites, chiefly small *Hymenoptera*. These, as well as the life-history of the insect, are fully discussed in the pamphlet referred to in the present note, which also includes a full account of the various remedies which have been suggested for its attacks, and a bibliography.

THE additions to the Zoological Society's Gardens during the past week include a Guinea Baboon (*Cynocephalus sphinx*, ♀) from Africa, presented by Mrs. Mellin; a Macaque Monkey (*Macacus cynomolgus*, ♂) from India, presented by Mr. Hamilton Baker; two Night Herons (*Nycticorax griseus*), European, presented by Mr. Chas. Humberset; a Woodcock (*Scolopax rusticula*), European, presented by Captain Bewicke; two Black-necked Lizards (*Agama atricollis*) from Natal, presented by Mr. W. Champion; a Bennett's Wallaby (*Macropus bennetti*) from Tasmania, an Australian Cassowary (*Casuarius australis*) from Australia, a Two-wattled Cassowary (*Casuarius bicarunculatus*) from the Aroo Islands, a Bennett's Cassowary (*Casuarius bennetti*) from New Britain, deposited; a Brush-tailed Kangaroo (*Petrogale penicillata*, ♀) from New South Wales, a Blue-crowned Parrakeet (*Tanygnathus luzonensis*) from the Philippines, four Bearded Titmice (*Panurus biarmicus*, 2 ♂, 2 ♀), European; two Long-tailed Grass Finches (*Poëphila acuticauda*, ♂ ♀) from North-west Australia, a Hobby (*Falco subbuteo*) British, purchased.

OUR ASTRONOMICAL COLUMN.

WOLF'S COMET, 1898 IV.—A. Thraen gives, in the *Astronomische Nachrichten*, an ephemeris for observation of this comet (Bd. 148, No. 3544).

Ephemeris for Berlin Midnight.

1899.		α. h.	m.	s.	δ. °	′	Br.
Feb.	16	6	13	48	−10	39·0	0·80
	20		14	39	9	55·2	·74
	24		15	53	9	11·6	·69
	28		17	28	8	28·9	·64
Mar.	4		19	24	7	47·3	·59
	8		21	39	7	6·9	·55
	12		24	11	6	27·9	·51
	16		27	0	5	50·5	·47
	20	6	30	4	− 5	14·8	0·44